

REMARKS

In view of the above amendments and the following remarks, reconsideration of the rejections contained in the Office Action of November 21, 2006 is respectfully requested.

In the outstanding Office Action, the Examiner rejected claims 1-3, 5-15, and 17-32 under 35 USC § 102(e) as being anticipated by the Narita reference (USP 6,329,640); and rejected claims 1 and 4-25 as being unpatentable over the Applicants' Admitted Prior Art (AAPA) in view of the Inoue reference (USP 5,984,165). However, the Examiner's rejections are respectfully traversed. For the reasons discussed below, it is respectfully submitted that independent claim 1 and the claims that depend therefrom are clearly patentable over the prior art of record.

As an initial matter, as noted above, the Examiner applied the Inoue reference in the prior art rejection of claims 1 and 4-25 in item 5 spanning pages 4 and 5 of the Office Action. However, the Inoue reference was not listed on a Form 1449 submitted by the Applicants, and has not yet been listed on a Form 892 prepared by the Examiner. Therefore, in order to ensure that the Inoue reference is properly of record in this application, the Examiner is respectfully requested to list the Inoue reference on a Form 892 in the next Action.

The Examiner applied the Narita reference under 35 USC § 102(e), and the Narita reference has an effective date (i.e., a US filing date) of October 18, 2000. Meanwhile, the present application claims priority to Japanese Publication 10-173086, filed June 19, 1998. Therefore, the priority date for the present application is well before the effective date of the Narita reference.

MPEP chapters 201.15 and 706.02(b) both explain that a reference qualifying as prior art under 35 USC § 102(e) can be overcome by submitting a verified English translation of the priority document and a certified copy of the priority document, if the priority document has a filing date earlier than the effective date of the priority document and supports the rejected claims. In this regard, a certified copy of the priority document was submitted and is of record in parent application Serial No. 09/719,768. Furthermore, a verified English translation of the priority document is being submitted herewith. Finally, it is submitted that the priority document fully supports all of the subject matter recited in the rejected claims. Consequently, the Examiner

is respectfully requested to withdraw the Narita reference as prior art in this application, and is therefore also requested to withdraw the prior art rejection of claims 1-3, 5-15, and 17-32 in view of the Narita reference.

In the rejection of claims 1 and 4-25 as being unpatentable over the combination of the AAPA and the Inoue reference, the Examiner noted that the AAPA does not teach a device for executing temperature controls. However, the Examiner applied the Inoue reference as teaching various components for controlling the temperature of a substrate, and asserted that it would be obvious to modify the AAPA in view of the temperature control components of the Inoue reference so as to obtain the invention recited in independent claim 1. However, there are important distinctions between the Inoue reference and the bump forming apparatus as recited in independent claim 1. In particular, independent claim 1 recites that a controller is provided for *operating a bonding stage and a load and transfer device to perform a post-heating operation on a semiconductor wafer*, and the controller is operable to control the post-heating operation on the wafer by *controlling the load and transfer device and the bonding stage* so that the wafer is positioned by the load and transfer device at a cooling position *above the bonding stage* while the bonding stage is heated such that the wafer *does not contact* the bonding stage when in the cooling position. Therefore, as explained in paragraph [0042] of the specification, because the semiconductor wafer *does not contact* the bonding stage (i.e., the heating element), the possibility of damage to the temperature-sensitive semiconductor wafer is greatly reduced.

The Inoue reference does not disclose or suggest a controller *for operating a bonding stage and a load and transfer device so as to perform a post-heating operation on a semiconductor wafer*. Instead, the Inoue reference uses a weight 30 mounted on an upper surface of a bare chip 2 to heat the chip 2. In particular, as explained on page 6, lines 26-45 of the Inoue reference, the weight 30 is formed of a highly heat absorbing material, and the weight 30 is heated by an infrared heater 40. Thus, the bare chip 2 is heated through direct contact with the weight 30 (see page 6, lines 59-61). Thus, the Inoue reference clearly does not teach a controller *for operating a bonding stage and a load transfer device to perform a post-heating operation in which the wafer is positioned by the load and transfer device at a cooling position above a*

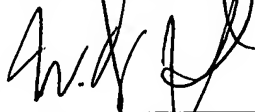
bonding stage while the bonding stage is heated such that the semiconductor wafer *does not* contact the bonding stage (i.e., the heating element) when in the cooling position.

In fact, the Inoue reference actually *teaches away* from an arrangement in which the semiconductor wafer to be heated is **not** in contact with a heating element. In particular, column 6, lines 30-32 explain that a bare chip will reflect and thus not absorb infrared rays for heating when the chip is made of particular material. Thus, the chip is instead placed *in contact with* the heated weight 30 (see also column 4, lines 16-19 for a similar teaching). Consequently, it is submitted that the Inoue reference does not even suggest, and actually teaches away from, a controller which operates a bonding stage and a load and transfer device to perform a post-heating operation, in which a load and transfer device positions a wafer *above* a bonding stage and the bonding stage is heated so that the semiconductor wafer *does not* contact the bonding stage (i.e., the heating element) when in the cooling position. Therefore, it is respectfully submitted that one of ordinary skill in the art would not be motivated by the Inoue reference to modify the AAPA in a manner that would result in the invention recited in independent claim 1. Accordingly, it is respectfully submitted that independent claim 1 and the claims that depend therefrom are clearly patentable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. However, if the Examiner should have any comments or suggestions to help speed the prosecution of this application, the Examiner is requested to contact the Applicant's undersigned representative.

Respectfully submitted,

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